City of Seattle

Washington State Department of Transportation

SR 520 Neighborhood Traffic Management Plan
**Updated March 2014**

*Prepared for the City of Seattle Department of Planning and Development Shoreline Substantial Development Permit*

# Table of Contents

## Foreword

This Neighborhood Traffic Management Plan (NTMP) fulfills the commitment outlined in Section 2.3.3 of the SR 520, I-5 to Medina: Bridge Replacement and HOV Project Vision and Coordination Memorandum of Understanding (MOU) between the Washington State Department of Transportation (WSDOT) and the City of Seattle. It represents the City of Seattle's and WSDOT's commitment to enhance the safety and livability in the Montlake Boulevard corridor while the I-5 to Medina project construction effort is underway.

To develop this plan, WSDOT and Seattle Department of Transportation (SDOT) staff met regularly to analyze public comments and identify design refinements and future neighborhood traffic management solutions. Solutions identified in this plan are based on a records search of all traffic-related comments received from the public about SR 520 and the Montlake Boulevard corridor since 2003, including from two February 2013 SR 520 Program open houses.

This version of the NTMP focuses on the next funded phase of SR 520, I-5 to Medina project construction, the West Approach Bridge North (WABN). With an eye towards the goals outlined in this NTMP, WSDOT worked with SDOT and the public to integrate the following neighborhood traffic management solutions into the WABN design itself, including:

- Adding capacity to the Montlake interchange.
- Redistributing lane widths on Montlake Boulevard to accommodate for a bus-only lane and a "sharrow".
- Including new traffic signals on Montlake Boulevard.
- Removing and/or mitigating free vehicular right-hand turns.
- Revising the configuration of the East Lake Washington Boulevard / 24th Avenue East intersection.
- Clearly marking "local access only" routes to discourage traffic from traveling into local neighborhoods.

The design refinements made to the WABN phase sufficiently address traffic impacts anticipated as a result of construction and operation. As noted above, SDOT and WSDOT will continue to coordinate throughout subsequent project phases to assess and address future traffic effects associated with the I-5 to Medina project. This NTMP will also inform future SR 520 project design and construction work in the Seattle area.

The NTMP is a living document that will be updated as future phases of the I-5 to Medina project are funded and implemented. WSDOT and SDOT are submitting this version to meet the conditions of the Seattle Department of Planning and Development (DPD) Shoreline Substantial Development Permit for the West Approach portion of the SR 520, I-5 to Medina project. Additional public outreach through late 2013 and early 2014 will continue to influence and shape the NTMP. A final version of the NTMP will be completed before the start of WABN construction, scheduled to begin in summer 2014.

[Updated March 2014] In January 2014, WSDOT hosted a meeting to share the draft NTMP and hear comments from SR 520 neighborhood representatives. WSDOT received two comments and heard additional feedback at the meeting. A full summary of the meeting and comments can be found in Appendix 1 of this plan.

# Chapter 1: Background

This chapter describes the purpose of this Neighborhood Traffic Management Plan (NTMP), provides a brief I-5 to Medina project overview, summarizes the public feedback heard to date about local transportation concerns, and identifies plans, documents, and key coordination efforts that have contributed to addressing those concerns.

## Purpose of the NTMP

Throughout the 16-year life of the SR 520 Bridge Replacement and HOV Program (SR 520 Program), corridor neighbors have ranked local transportation concerns among their top issues. In fact, almost one-third of all comments received on the 2006 SR 520 Program draft environmental impact statement (EIS) described transportation-related concerns and suggestions for improvements. More than half of those comments addressed transit and non-motorized travel and enhancing local connectivity. Because the public was clearly interested in improving the local transportation system, WSDOT and the City of Seattle refined the project design to improve traffic flow and enhance connections for all modes of travel.

*View of existing traffic on Montlake Boulevard during the afternoon commute hour.*

Local transportation systems have a wide variety of users, serve multiple purposes, and are subject to diverse effects and pressures. Transportation systems are also dynamic and change based on several factors including local development, regional land use, and economic trends. Recognizing the variability inherent to transportation systems, and in response to public feedback, stakeholder processes, and recommendations related to these issues (described later in this chapter), WSDOT and SDOT collaborated to develop this NTMP.

The NTMP represents the City of Seattle's and WSDOT's commitment to enhancing the safety and livability in the Montlake Boulevard corridor while the long-range SR 520, I-5 to Medina project construction effort is underway. This plan will inform SR 520 design and construction work in the Seattle area by identifying:

- Information about existing regional and citywide policies for neighborhood traffic management.
- Modifications that can be integrated through project design that will minimize the long-term traffic effects on local streets.
- Potential solutions for neighborhood traffic management issues during SR 520 construction phases.
- Tools that allow members of the public an ongoing opportunity to provide input into construction management decisions that can help to avoid, minimize, or mitigate the effects of construction activities.

## City of Seattle/WSDOT Memorandum of Understanding

WSDOT and the City of Seattle acknowledge that improving existing and future traffic in the Montlake Boulevard interchange area requires thoughtful investment by both SDOT and WSDOT, agency partnership, and close coordination with other planned regional projects. This commitment was reaffirmed in the SR 520, I-5 to Medina: Bridge Replacement and HOV Project Vision and Coordination Memorandum of Understanding (MOU), which is the guiding document for this NTMP.

In Fall 2011, the City of Seattle and WSDOT developed the MOU to direct future coordination regarding the SR 520 Program. Per the direction of the MOU, WSDOT and SDOT worked together to explore potential neighborhood traffic management solutions that could be implemented during design, construction, and operation of the I-5 Medina project.

Section 2.3.3 of the MOU states that WSDOT and the City of Seattle intend to:

> Collaborate to develop a Neighborhood Traffic Management Plan to catalog and develop solutions for community traffic concerns in the Montlake corridor and surrounding neighborhoods and to identify potential funding sources for projects consistent with recommendations and findings from the ESSB 6392 Final Workgroup Technical Report. The plan will define traffic management measures to proactively reduce Project construction effects and develop long term traffic management strategies that work in conjunction with the Project's Preferred Alternative and existing City traffic management practices.
>
> An implementation strategy for the Neighborhood Traffic Management Plan and funding commitments will be documented in a future written agreement. At minimum, the effort should include the following actions:
>
> - Convene a community advisory group to participate in developing the NTMP.
> - Identify community traffic management concerns and issues through a records search and community process.
> - Identify potential traffic management solutions, including, but not limited to development of an intelligent transportation system plan for Montlake Boulevard and 23rd Avenue.
> - Evaluate the effectiveness and feasibility of potential traffic management solutions through additional traffic modeling and data analysis, as needed.
> - Develop an implementation strategy and schedule for the Neighborhood Traffic Management Plan, including coordination with existing and planned public and private development efforts related to traffic management in the Project area.
> - Identify potential funding sources to provide for timely implementation of the Neighborhood Traffic Management Plan.

## I-5 to Medina project overview

SR 520 connects thousands of people to a regional community and economy every day. Area residents use the corridor to commute to work, school and recreation, while businesses depend on a reliable corridor to deliver and receive goods and services. To that end, the SR 520 Program will:

- Enhance safety by replacing the aging floating bridge, and
- Keep the region moving with vital roadway improvements throughout the corridor that benefit transit, non-motorized, and general traffic alike.

As part of the broader SR 520 Program, the I-5 to Medina project includes corridor improvements in Seattle. The project will replace the interchanges and roadway between I-5 in Seattle and the eastern end of the floating bridge, including lids in the Montlake and Roanoke areas and key improvements for pedestrians, bicyclists, and transit users.

The next phase of the I-5 to Medina project funded for construction is the West Approach Bridge North (WABN). The WABN structure will extend transit/HOV access and a new bicycle/pedestrian path from east of Lake Washington to the Montlake area while improving seismic safety and meeting all regulatory requirements. Construction is scheduled to begin in 2014, and WSDOT plans to open WABN to drivers in fall 2016. For more detailed project information, visit http://www.wsdot.wa.gov/Projects/SR520Bridge/WABN/.

This report focuses on a specific area around the SR 520 and Montlake Boulevard interchange where the majority of known traffic congestion in the corridor originates and improvements are funded for construction through WABN. Other remaining SR 520 corridor improvements in Seattle are not yet funded for construction. These include elements of the Montlake interchange area, Portage Bay Bridge area, I-5 interchange area, and a second bascule bridge. WSDOT will continue to coordinate with the City of Seattle as additional phases are funding for construction.

## Public feedback and key documents / processes addressing traffic

Key project documents and reports listed below included public comment opportunities and considered Montlake area transportation issues and solutions. More detailed information about public feedback regarding transportation is provided in Chapter 2.

Two processes, the Engrossed Substitute Senate Bill (ESSB) 6392 Workgroup process and the Seattle Community Design Process, are also highlighted below because they helped identify transportation refinements that addressed public concerns. Both processes resulted in recommendations that the City of Seattle and WSDOT collaborate to include neighborhood traffic management and design refinements in the project's final design. Furthermore, both efforts included close coordination between WSDOT, City of Seattle, Washington Park Arboretum, University of Washington, King County Metro, Sound Transit, SR 520 users, and corridor neighbors.

Links to the documents listed below and additional information can be found in the SR 520 Program library at http://www.wsdot.wa.gov/Projects/SR520Bridge/library.htm.

- **SR 520 Bridge Replacement and HOV Program Draft EIS (August 2006).** Before the SR 520 Program was divided into four separate projects, the SR 520 Program draft EIS looked at the potential effects of a "No Build" Alternative, a 4-Lane Alternative, and a 6-Lane Alternative, along with design options for the 6-Lane Alternative.

- **SR 520 Neighborhood Mediation Project Impact Plan (December 2008).** Prepared in response to ESSB 6099 passed during the 2007 legislative session, this document summarized the results of an effort to mediate a westside solution in the City of Seattle for the I-5 to Medina project. The community group identified three design options for further consideration in the supplemental draft EIS (see below).

- **SR 520 ESHB 2211 Legislative Workgroup Recommendations Report (December 2009).** In 2009, Gov. Gregoire and the Washington State Legislature approved Engrossed Substitute House Bill (ESHB) 2211, which authorized variable tolling on the SR 520 corridor and created the SR 520 Legislative Workgroup. This group of legislators and transportation officials presented recommendations on financing and a westside design. A westside subgroup reviewed existing information regarding westside design options and considered information presented in the supplemental draft EIS. After a five-month process, the Workgroup voted to move forward with 6-Lane Alternative design (Option A+), which met the purpose and need of the project, satisfied previously received legislative direction, had the least environmental impact, and was within the project's cost limit.

- **SR 520, I-5 to Medina Bridge Replacement and HOV Project Supplemental Draft EIS (January 2010).** The I-5 to Medina supplemental draft EIS built on the work of the 2006 draft EIS by evaluating a new set of 6-Lane Alternative design options. Key public input about transportation focused on transit/HOV use of SR 520; traffic and transportation modeling; and bicycle and pedestrian mobility.

- **ESSB 6392 Agency Workgroup Recommendations Report (December 2010).** After the announcement of the SR 520 program's preferred alternative in April 2010, WSDOT heard concerns from the Seattle Council, Seattle Mayor, and community members about the closure of the eastbound and realignment of the westbound Lake Washington Boulevard ramp to/from SR 520. Concern was expressed that traffic would be diverted or increase on local roadways. During the time of the ESSB 6392 workshop, traffic volumes were being revised to be consistent with the updated Puget Sound Regional Council's travel forecasting model and to be consistent with the most recent SR 520 toll guidance. The City of Seattle and WSDOT agreed to be proactive and develop a Neighborhood Traffic Management Plan after the traffic volumes were revised and to continue implements existing City of Seattle and SR 520 traffic management programs. This process also resulted in traffic calming elements in the Washington Park Arboretum.

- **SR 520, I-5 to Medina Bridge Replacement and HOV Project Final EIS (June 2011).** The final EIS compared the project's preferred alternative (described in more detail at the end of this chapter) with the design options analyzed in the supplemental draft EIS, further refined previous analyses based on the Preferred Alternative design, and identified how WSDOT would avoid, minimize and mitigate for project effects. The document also took into account the latest assumptions about other regional transportation and development projects to place the project within a wider context. The final EIS included a full analysis of transportation effects within the I-5 to Medina project area. Transportation findings in the final EIS addressed the need for continued coordination between SDOT and WSDOT.

- **SR 520, I-5 to Medina Bridge Replacement and HOV Project Record of Decision (August 2011).** The Record of Decision provided federal approval for the project, and listed many commitments made by WSDOT and the Federal Highway Administration (FHWA) to surrounding communities before, during and after project construction. These commitments included noise reduction measures, traffic-calming strategies, construction management planning, park and natural environment mitigation, and continued coordination with the City of Seattle on design and construction.

- **Seattle Community Design Process Design Preferences Report (Dec. 2012).** With a full transportation analysis complete and the baseline design approved, WSDOT hosted the 2011-2012 Seattle Community Design Process. This process focused on identifying SR 520 design refinements that improved livability for neighbors and facilitated safe and efficient connections for all modes of travel. Throughout the process, WSDOT heard extensive feedback about the need to improve connections for pedestrians and bicyclists and traffic flow for drivers. Not only was WSDOT able to identify refinements for drivers but also incorporated additional refinements that benefitted non-motorized commuters, enhancing the regional and local transportation system as a whole. These improvements included eliminating vehicular free right-hand turns, new non-motorized connections under and across SR 520, safer street crossings and identifying other traffic calming measures such as curb bump outs.

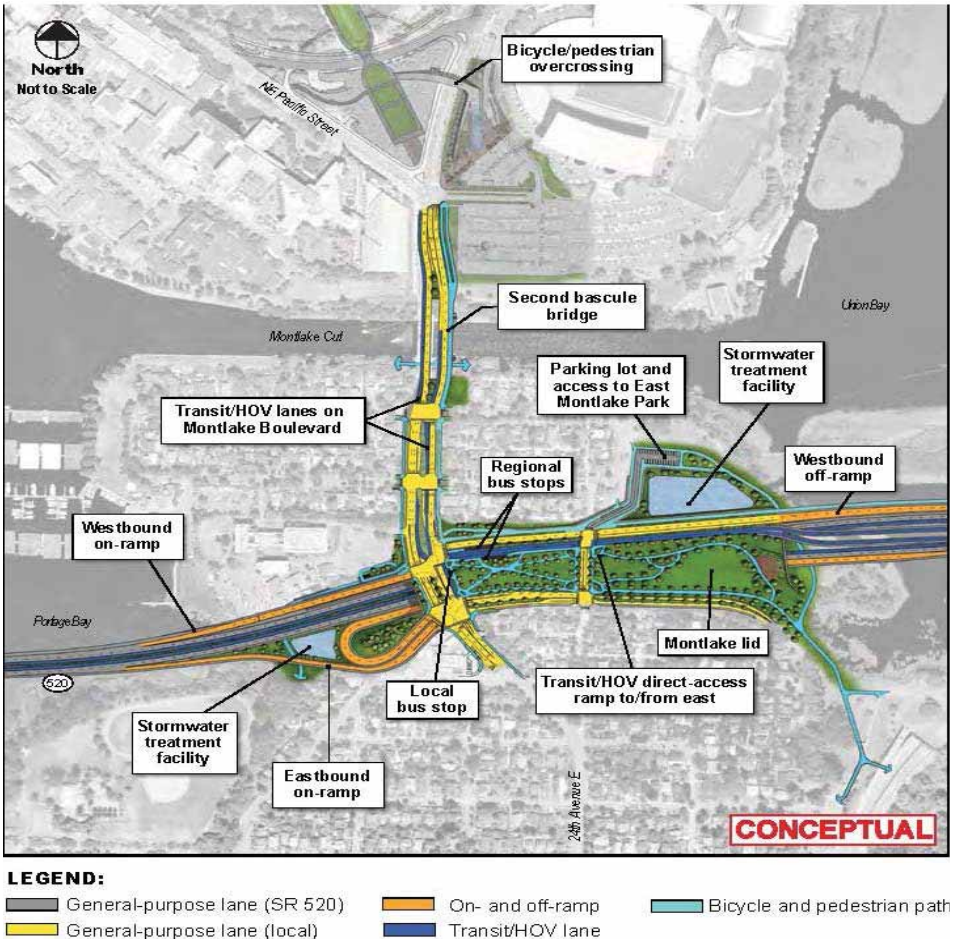
## Preferred alternative refinements that address traffic concerns

Many of the refinements made through the environmental process outlined above resulted in a preferred alternative that addresses traffic-related comments heard from the public. The preferred alternative, shown in Exhibit 1 below, is described in more detail in the I-5 to Medina project final EIS. However, some of the key preferred alternative features and changes are described below because they relate to traffic operations in the Montlake interchange area:

- Transit/HOV lane on Montlake Boulevard
- Remove free right turn lanes from the Montlake interchange

- Separate westbound SR 520 off-ramps for Montlake and Lake Washington Boulevard to reduce traffic at the local intersection with 24th Avenue Northeast.
- Wider pedestrian crossing over SR 520 at 24th Avenue Northeast.
- Transit / HOV lane in each direction on SR 520.
- Lake Washington Boulevard on-ramp to eastbound SR 520 is closed and the function relocated to the Montlake Boulevard interchange.
- Westbound Lake Washington Boulevard is widened to two lanes between 24th Avenue East and Montlake Boulevard.
- Montlake Boulevard on-ramp to eastbound SR 520 is widened to two general purpose lanes at the ramp meter.
- Direct transit / HOV access ramps are provided to/from the east at the intersection of Montlake Boulevard and westbound SR 520 off-ramp.
- Eastbound off-ramp to Montlake Boulevard is widened to include two exclusive left-turn lanes and one shared through and right-turn lane.
- Westbound SR 520 is widened to include a peak period shoulder auxiliary lane.

**Exhibit 1: SR 520 preferred alternative (2011)**



# Chapter 2: Existing Conditions

This chapter is intended to provide information about the current transportation system within close proximity to the Montlake Boulevard and SR 520 interchange. This section provides information necessary to understand how opportunities to make improvements with traffic management strategies align with community concerns so that potential solutions can be identified. Existing transportation issues and transportation demand programs within the Montlake area are described, followed by an overview of public feedback received to date about traffic in the NTMP plan area.

Montlake Boulevard is a key route that provides connectivity between north and south Seattle neighborhoods, institutions, parks, and activity centers such as the University of Washington, Children's Hospital and the Washington Park Arboretum. Today's land use and resulting traffic demands strain the system throughout the Montlake corridor.

More than 85,000 people live within a two-mile radius of the Montlake Boulevard interchange with SR 520. Within the same radius there are approximately 62,000 jobs with almost 65 percent of those jobs located north of the Montlake Cut. Both population and employment are anticipated to grow within the Seattle area. The Puget Sound Regional Council transportation planning process showed a nearly 43 percent growth in population and a 30 percent growth in employment for the area north of the Montlake Cut between Lake Washington and Puget Sound (source: Transportation Discipline Report Chapter Exhibit 5-2).

## Existing traffic conditions

The area of evaluation for the NTMP effort focuses on a close proximity to the SR 520 and Montlake Boulevard interchange where the majority of known traffic congestion in the corridor originates (see Exhibit 2). This area was selected because it is the location where traffic control modification can be implemented to affect change during construction or for the longer term.

**Exhibit 2: Montlake Boulevard and SR 520 interchange vicinity**


Below is a summary of the existing traffic system features within the area of evaluation.

## Local roadway system and features

### *Configuration and signalization*

Local street configuration and signalization in the area is as follows:

- Between East Roanoke Street intersection to the south and the Northeast Pacific Place intersection to the north, there are six signalized intersections.
- Two of the intersections, Northeast Pacific Street and East Shelby Street, operate with transit signal priority.
- Montlake Boulevard is comprised of three lanes in each direction both north and south of the Montlake drawbridge.
- At the Montlake drawbridge, the number of lanes decreases to two in each direction.

### *Transit stops*

Transit stops on Montlake Boulevard are located at the following locations:

- **Northbound:** East Roanoke Street, SR 520 westbound off-ramp, East Shelby Street, Northeast Pacific Street
- **Southbound:** Northeast Pacific Street, SR 520 eastbound on-ramp, East Roanoke Street

The most heavily used transit stop in this area is located north of the Montlake Cut on Northeast Pacific Street near the intersection with Northeast Pacific Place. This stop serves the University of Washington,

University of Washington Medical Center and in the future will serve the University of Washington light rail station.

### *Sidewalks*

Sidewalks are also available along both sides of Montlake Boulevard, and there are five at-grade crossings for pedestrians and cyclists. At-grade signalized pedestrian crossings are located at East Roanoke Street, East Lake Washington Boulevard, East Shelby Street, Northeast Pacific Street, and Northeast Pacific Place.

### *Montlake bascule bridge*

A prominent feature in the Montlake Boulevard corridor is the historic Montlake Bascule Bridge. This drawbridge opens for boating traffic that is in need of more than 46 feet of vertical clearance. Openings of the drawbridge occur on an as-needed basis with the following restrictions:

- From April 31 to August 31, drawbridge openings for marine traffic are restricted on weekdays between 7 a.m. and 9 a.m. and between 3:30 p.m. and 6:30 p.m.
- From September 1 to April 30, drawbridge openings for marine traffic are restricted on weekdays between 7 a.m. and 10 a.m. and between 3:30 p.m. and 7 p.m.

The drawbridge may be opened anytime on the weekend or on federal holidays.

## SR 520 corridor

In the Montlake area, the SR 520 corridor is comprised of two lanes in each direction. Both lanes are shared by all modes of travel in the corridor. To cross the SR 520 floating bridge, drivers are required to pay a toll that differs depending on the time of day travel occurs.

### *On- and off-ramps*

- **Westbound off-ramp:** A single lane that joins Montlake Boulevard as a free-right turn movement.
- **Westbound on-ramp:** A single lane on-ramp accessible from the north. This ramp merges onto Portage Bay bridge with a short merge area.
- **Eastbound off-ramp:** Exits SR 520 as a single lane and widens to two lanes at the Montlake intersection. The lane configuration is a left-turn lane and a shared left-turn, through and right-turn lane. There is also an access driveway from the eastbound off-ramp that provides access to the gas station in the southwest corner of the interchange.
- **Eastbound on-ramp:** Three receiving lanes adjacent to Montlake Boulevard allow taper down to two lanes at a ramp meter where there is a carpool bypass lane and a general purpose lane.

**Bus using SR 520 corridor**

### *Transit stops*

Just east of the Montlake Boulevard corridor, there is a freeway transit stop located between the westbound off-ramp and the westbound SR 520 mainline traffic lanes. Pedestrian and bicycle access to the westbound

freeway transit stop is available via a paved path that originates near the bicycle racks adjacent to Montlake Boulevard.

There is also a freeway transit stop located between the eastbound mainline lanes and the eastbound on-ramp to SR 520. Pedestrian access to the eastbound freeway transit stop is available via stairways from either the east or west side of Montlake Boulevard. Cyclists need to walk their bicycle and walk down the stairs for access to the transit stop.

### Traffic volumes

Montlake Boulevard is one of only two arterials that cross the Ship Canal in this area. All modes of travel, including cars, buses, cyclists, and pedestrians, must funnel into one of the two crossings at either University drawbridge or Montlake drawbridge to access jobs, homes, and other destinations on either side of the Montlake Cut.

As can be seen in Exhibit 3, there are 60,000 vehicle trips over the Montlake drawbridge every day. More than twice the number of trips use Montlake drawbridge compared to University drawbridge. The table also illustrates traffic volumes for the SR 520 Montlake Boulevard interchange ramps for the year 2012. The number of vehicles using the on- and off-ramps at the Montlake Boulevard/SR 520 interchange was just shy of 44,000 vehicles per day. During the same year, traffic volumes using the Lake Washington Boulevard interchange were measured at just below 6,900 vehicles per day. In combination, the SR 520 on- and off-ramp volumes have decreased by about 15 percent since the toll has been implemented.

Traffic volumes in the Montlake Boulevard corridor are also managed by existing programs that are outlined in Chapter 3 of this report. In addition to the SR 520 toll, traffic volumes are managed using the SR 520 traffic management plan, the Seattle Neighborhood Traffic Operations program, and the Seattle ITS Strategic Plan.

**Exhibit 3: Montlake and Lake Washington Boulevard Interchange Daily Traffic Volumes**

| Ramp | Year 2010 | 2012 | % Change |
|---|---|---|---|
| **Montlake Boulevard** | | | |
| WB Off | 10220 | 6830 | |
| WB On | 14010 | 14810 | |
| EB Off | 12620 | 13280 | |
| EB On | 12270 | 8890 | |
| Montlake Total | 49120 | 43810 | -11% |
| **Lake Washington Boulevard** | | | |
| WB Off | 5240 | 3700 | |
| EB On | 5250 | 3180 | |
| LWB Total | 10490 | 6880 | -34% |
| Combined | 59610 | 50690 | -15% |

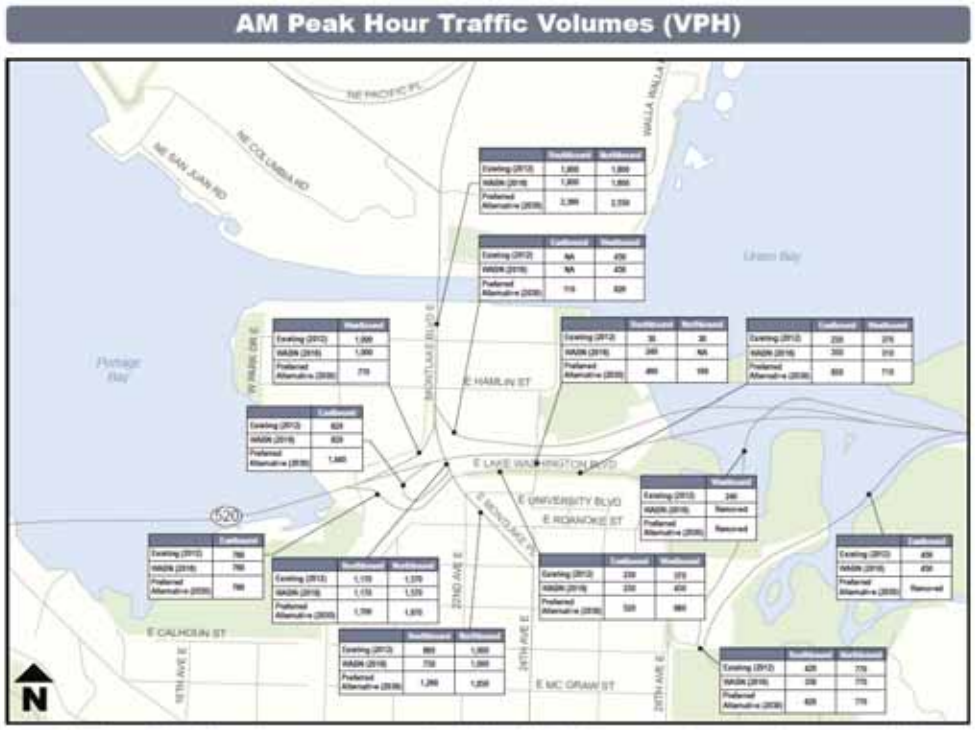
Source: 2010 and 2012 Ramp and Roadways (WSDOT)

Daily traffic volume information illustrates the importance of the Montlake Boulevard corridor for the traveling public. Traffic volumes in the Montlake Boulevard/SR 520 interchange area have changed since a toll was implemented on the SR 520 corridor in December 2011. Since the implementation of the SR 520 toll, daily traffic volumes in the Montlake area have decreased:

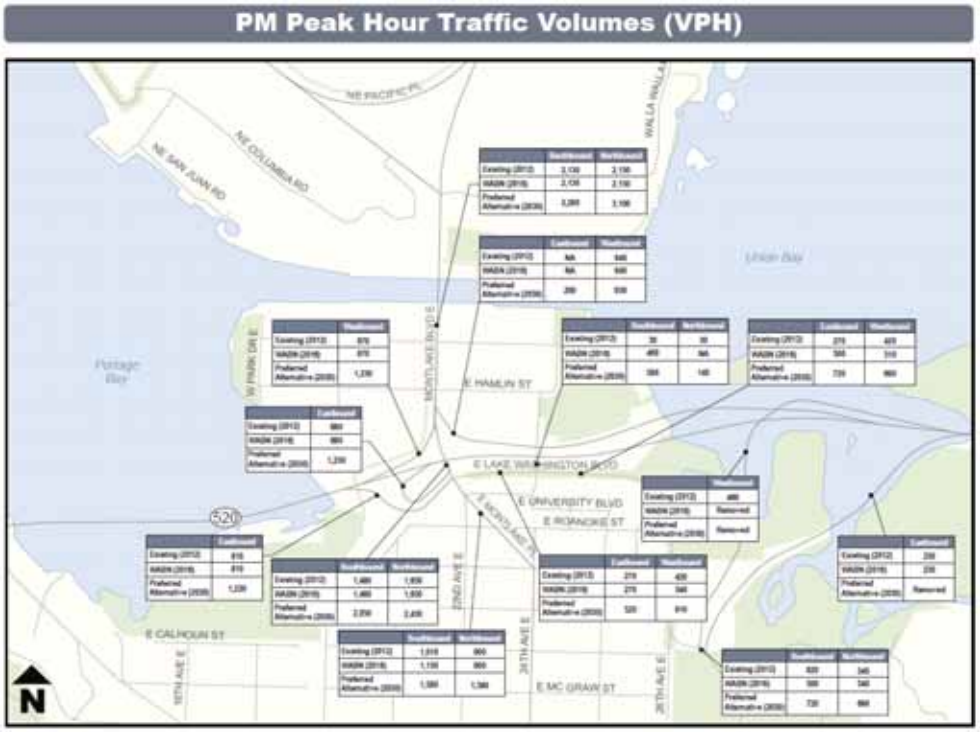
- Traffic to/from SR 520 has decreased by just over 5,300 vehicles per day.
- Lake Washington Boulevard ramp volumes have decreased by about 3,600 vehicles per day.
- Daily traffic volumes on the SR 520 floating bridge have decreased by approximately 30 percent.

No measurable change in traffic volumes has occurred on the Montlake drawbridge as a result of the SR 520 tolling. Because people continue to travel to/from work during the peak hours of travel, we have found that the peak hour traffic volumes shown in the Montlake Boulevard corridor have remained essentially the same as the pre-toll period with about 3,700 vehicles per hour crossing the Montlake drawbridge. Peak hour traffic volumes for the years 2012, 2016, and 2030 are illustrated in Exhibit 4.

**Exhibit 4: Peak Hour Traffic Volumes in the Montlake Interchange Area**




**Source:** King County (2008) GIS data (Streams, streets, water body), CH2M Hill (2008) GIS data (park). Horizontal datum for all layers is NAD83(91); vertical datum for layers is NAVD88.



## Traffic operations

Traffic operations models reflect current traffic volume information. The traffic data was collected after traffic adjusted to the implementation of tolls on the SR 520 corridor. SDOT and WSDOT coordinated through the modeling process to develop a clear understanding about the various effects of currently funded construction on traffic operations. This understanding was necessary to further develop potential design modifications and/or NTMP strategies that could reduce adverse effects.

Exhibit 5 illustrates pre- and post-toll congestion limits and congestion durations. Each of the lettered items on the exhibit summarize public concerns we have heard through the SR 520 public comment process, conversations at SR 520 public meetings, or through the City's public coordination.

**Exhibit 5: Pre-and Post-Toll Congestion Limits and Durations**


| Trip (PM Peak Hour) | Average Travel Time | | Congestion Duration | |
|---|---|---|---|---|
| University Village to SR 520 | Pre-toll 38 min | Post-toll 21 min | Pre-toll 2:30-5:30 PM | Post-toll 4:30-5:30 PM |
| SR 520 to University Village | Pre-toll 6 min | Post-toll 6 min | Limited Congestion | Limited Congestion |

Source: WSDOT traffic simulation model and field data collection

(A) **Montlake Boulevard / Pacific Street intersection:** Over capacity prior to and after tolling implemented. Congestion extends north along Montlake Boulevard to and through the Northeast 45th Street intersection.

(B) **Montlake Boulevard / Montlake Bridge:** Traffic congestion occurs during the off-peak period when the bridge opens, extending congestion on Montlake Boulevard to north of Northeast Pacific Street and south to East Roanoke Street.

(C) **Montlake Boulevard / East Hamlin Street Intersection:** The northbound left/U-turn lane at East Hamlin Street exceeds its storage capacity creating short periods of congestion, especially in the p.m. peak. Southbound Montlake Boulevard traffic is congested when vehicles are making the northbound left / U-turn movement.

(D) **Montlake Boulevard / Westbound SR 520 on-ramp:** Traffic merging onto the Portage Bay bridge exceeds the on-ramp's capacity and creates congestion on Montlake Boulevard.

(E) **Montlake Boulevard / Lake Washington Boulevard East:** Traffic exceeds the available capacity at the signal during the a.m. and p.m. peak periods. Prior to toll implementation, little to no congestion existed on eastbound Portage Bay bridge. After toll implementation, increase in eastbound off-ramp congestion.

(F) **Bicycle and pedestrian connectivity:** Concern about conflict between bicycles, pedesrians, and cars.

(G) **Lake Washington Boulevard:** Concern regarding traffic through the Arboretum.

Note: Congestion represents duration when average speed is less than 50% of posted speed.

Congestion issues on Montlake Boulevard continue to extend north to about Northeast 45th Street during the peak hour of traffic operations. However, the source of the congestion has changed since tolls were implemented. Eastbound SR 520 traffic congestion no longer impacts the Montlake Boulevard corridor operations; however, more people are using the westbound on-ramp. This increase in traffic results in congestion from the ramp that in turn affects traffic operations on Montlake Boulevard. The eastbound off-ramp to Montlake Boulevard is also more congested than before the tolls were implemented.

### Transit operations

Transit is a primary mode of transportation for many people within the NTMP area of evaluation. It is also a travel mode that is encouraged through the University of Washington's robust transportation demand management program. There are ten bus routes that cross the Montlake drawbridge to provide service to the University of Washington, University District, and neighborhoods to the north. Of the ten bus routes crossing the Montlake drawbridge, three are considered local routes while seven are considered regional because they cross the SR 520 bridge.

In an effort to improve transit operations in the area of evaluation, the City of Seattle has provided a transit/HOV lane on eastbound Pacific Street that allows buses and carpools a lane and advance green to bypass congestion at the Pacific Street/Montlake Boulevard intersection. The City has also included a transit queue jump lane and signal timing on northbound Montlake Boulevard at the Shelby intersection.

## Public outreach used to inform the NTMP

Public outreach is essential for any project or City traffic management program. Outreach has played an integral role in developing the I-5 to Medina project design, as WSDOT has collected public feedback throughout the life of the project to gain more insight about the daily conditions, concerns, and desires within the corridor. This NTMP used this feedback to frame the solutions identified in chapter 3.

Public outreach reviewed for this effort included three elements:

1. Records search of all SR 520-related public comments
2. Coordination with an existing community advisory group
3. Public open houses

This section provides an overview of each element and a summary of the public comments heard to date.

### Records search of all SR 520-related public comments

The MOU requests that WSDOT and the City of Seattle "identify community traffic management concerns and issues through a records search and community process." The purpose of this activity was to understand in greater detail public concerns about traffic in and around Montlake Boulevard by analyzing comments from all sources of public feedback. To fulfill this commitment, the NTMP team gathered public comments from three main sources:

- **SR 520 correspondence database**. The database includes over 6,600 comments on all project topics from email correspondence, phone calls to the project office, public events, and letters received between 2003 and 2012.
- **Stakeholder processes**. This includes a total of more than 1,000 comments on all project topics from the 2007-2008 Mediation process, 2009 Legislative Workgroup process, 2010 ESSB 6392 Workgroup and Arboretum processes, and 2011-2012 Seattle Community Design Process.
- **Environmental process**. This includes 415 comments made through the formal comment period on the 2010 Supplemental Draft EIS.

### Coordination with an existing community advisory group

To engage with the broader public and SR 520 neighbors, the City of Seattle and WSDOT agreed that a community advisory group could participate in developing the NTMP.

SDOT and WSDOT elected to use an existing group established through the Seattle Community Design Process. This group included active and informed neighborhood participants who demonstrated familiarity with the I-5 to Medina project and transportation systems and interest in balancing a variety of ideas to identify positive solutions. This group met monthly during the Seattle Community Design Process and spoke at length about community concerns and corresponding project design refinements that could support improved connections for drivers, pedestrians, cyclists and transit users.

In January 2013, the NTMP team provided an overview of the NTMP process and approach, and solicited feedback on information to be shared at the February SR 520 Program open houses. The group was interested in continuing the conversation with the neighborhoods about traffic management during and after construction. Based on this feedback, additional coordination with neighborhood stakeholders and the public through late 2013 and early 2014 will continue to influence and shape the NTMP.

### Public open houses

WSDOT hosts public open houses to inform the broader public about SR 520 Program updates. In February 2013, WSDOT hosted an SR 520 Program open house on both sides of Lake Washington to share the latest information about the next phase of construction, the West Approach Bridge North Project. SDOT and WSDOT heard feedback affirming community concerns consistent with those identified in the records search of public comments, described above.

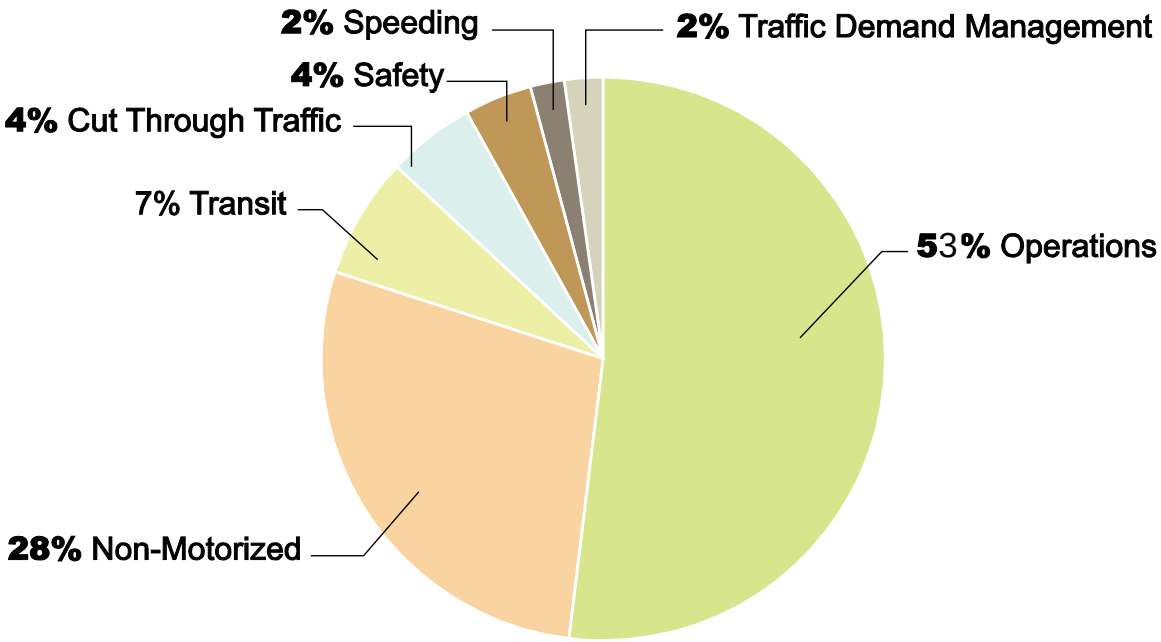
Based on the records search, the project team queried comments related specifically to local traffic around the I-5 to Medina project area, resulting in approximately 609 comments. The comments varied in topic and detail. The team identified several key categories to inform this report:

- Operations
- Non-motorized
- Transit
- Cut-through traffic
- Safety
- Speeding

- Traffic Demand Management

Exhibit 6 illustrates the percentages of comments within each category. The largest number of comments related to traffic operations and non-motorized traffic. Below the exhibit is a summary of each category.

**Exhibit 6: Traffic Topics Addressed by Public Comments Identified through Records Search**




Below is a summary of comments heard within each of the categories identified above.

**Operations.** Improve traffic flow and mobility to and through the Montlake corridor. More specifically:

- Encourage drivers to use 23rd Avenue Northeast instead of Lake Washington Boulevard to reduce the daily volume of vehicles in the Arboretum
- Accommodate diversion due to the removal of the Lake Washington Boulevard ramps
- Improve Shelby/Hamlin access to and from Montlake Boulevard
- Improve traffic flow on 25th Avenue Northeast
- Reduce and/or manage traffic volumes at the SR 520 off- and on-ramps

**Non-motorized.** Implement safe and efficient connections for bicyclists, pedestrians and transit riders. More specifically:

- Improve Montlake and SR 520 bicycle and pedestrian connections and safety
- Provide a bicycle/pedestrian facility on SR 520

- Provide a bicycle/pedestrian facility on Lake Washington Boulevard and/or connection to the Arboretum
- Provide connections from SR 520 and lids to neighborhood and regional bicycle and pedestrian networks
- Provide bicycle connections from Eastlake to Interlaken/Roanoke Park
- Address Bill Dawson Trail connections and safety
- Consider Delmar Drive East, 10th Avenue East, East Roanoke Street safety
- Consider the second bascule bridge as pedestrian/bicycle only
- Limit bicycle facility closures during construction

**Transit.** Improve transit reliability in key corridors such as Montlake Boulevard. More specifically:

- Consider, and if possible improve, transit reliability when the Montlake Bridge is open for boat traffic
- Provide safe and easy access between local and regional transit stops, and transit and other modes
- Keep the Montlake Freeway Transit Station open during construction
- Provide riders with real-time information during construction
- Consider the transit impacts on University Link light rail station opening in 2016

**Cut-through traffic.** Divert cut through traffic away from the following neighborhood collector streets:

- 24th Avenue East where the off-ramp could encourage access to neighborhoods to the south
- Lake Washington Boulevard
- Fuhrman/Boyer and Delmar/Lynn routes to SR 520
- 25th Avenue East and 26th Avenue East, 22nd Avenue East
- In general, manage local streets used as routes during construction
- Consider access to the Seattle Yacht Club

**Speeding.** Control speeding on arterials and neighborhood collector streets by implementing the following:

- Traffic calming devices on arterial and local streets to slow traffic down, specifically Lake Washington Boulevard, Montlake Boulevard and Delmar Ave East
- "Event" traffic management solutions
- Limiting speeds during construction

**Travel demand management.** Implement travel demand strategies to reduce traffic volumes. More specifically, focus on the following:

- Montlake Boulevard and Pacific Street intersection
- Montlake Boulevard and Lake Washington Boulevard East
- On- and off-ramps to SR 520

Public comment data provided critical information for the NTMP team to consider as they were developing strategies for this plan. Based on public feedback, the team made the following key assumptions to support development of this NTMP:

1. Traffic operations are considered poor throughout the Montlake Boulevard area.
2. Non-motorized travel is a key element in and around the Montlake Boulevard corridor and should be considered as an integral part of the transportation system.
3. Transit is a key ingredient to person mobility within the Montlake interchange area.

# Chapter 3: Potential Solutions

The NTMP team's goal for identifying potential solutions for existing, construction-related, and future traffic issues was based on three tiers:

1. **Existing Traffic Management Solutions:** Identify existing SDOT and WSDOT traffic management programs and explore how those programs address public concerns.
2. **Construction Period Traffic Management Solutions:** Determine how design refinement solutions could be integrated during SR 520 construction phases to address public concerns; identify how existing programs could be enhanced to be more effective during the construction phases.
3. **Long-Term Solutions:** Identify dynamic long-term solutions that allow for flexibility in traffic, transit, and non-motorized travel.

This chapter will discuss the first two tiers of strategies for existing programs and for the next I-5 to Medina project funded construction phase at the time of this writing (the West Approach Bridge North). Future phases of construction (currently unfunded) and long-term solutions (tier 3) will be discussed in chapter 4.

## Tier 1: Existing traffic management solutions

The first tier of solutions includes many programs operated by the City, State, or transit agencies. These programs, which are directly responsive to the goals of the NTMP, are described below.

### SDOT non-motorized plans

SDOT plans and implements a range of strategies that address community concerns related to non-motorized travel options in the Montlake corridor and SR 520 vicinity. These improvements will enhance neighborhood environments for walking and bicycling. They will be discussed as they relate to issues in these areas, including context on implementation schedule and funding.

#### *Montlake Bridge Pedestrian and Bicycle Crossings*

The Montlake Bridge is an important pedestrian and bicycle crossing point providing access between neighborhoods on both sides of the cut, including routes to the University of Washington and other important destinations and regional trails. The new Sound Transit light rail station near Husky Stadium and the new shared-use bicycle/pedestrian path across SR 520 will increase non-motorized travel demand in the area.

Crossing over the Montlake Bridge, cyclists and pedestrians share narrow sidewalks that are further constricted at points by bridge support structures and equipment. The narrow width and level of pedestrian and bicycle activity presents challenges for the use of this connection.

In 2013 the Seattle City Council obligated $60,000 to SDOT to perform a bicycle and pedestrian access feasibility study for the Montlake Bridge. The study will evaluate and assess the potential of enhancing bicycle and pedestrian access through operational changes of the existing bridge, potential structural changes to the existing bridge, and the potential for a new, separate bicycle and pedestrian bridge. The results of this study will be presented to City Council on Sept. 30, 2013.

### *Pedestrian Master Plan*

Seattle's Pedestrian Master Plan establishes the policies, programs, design criteria, and projects that will further enhance pedestrian safety, comfort, and access in all of Seattle's neighborhoods. This plan guides the work of SDOT's Pedestrian Programs. These programs work annually to add additional pedestrian improvements including:

- Sidewalks
- Crossing Improvements
- Curb Ramps
- Safe Routes to School

SDOT's annual budget, as well as appropriate grant funding, allows for these types of improvements to be added each year.

More information about the Seattle Pedestrian Master Plan can be found by visiting:
http://www.seattle.gov/transportation/pedestrian_masterplan/

### *Bicycle Master Plan*

The 2013 Draft Bicycle Master Plan includes a network map showing potential bicycle facilities of all types ranging from bicycle lanes to neighborhood greenways to cycle tracks. The network map and bicycle master plan update is scheduled to be adopted in 2013. The network map will be refined based on public comment and further analysis. Improvements in the bicycle network would ultimately lead to improvements in safety, comfort, and reliability for cyclists. This in turn is anticipated to help more people feel comfortable riding their bicycles within the City of Seattle. Enhanced bicycle facilities and travel choices are an important way to manage travel demand in busy and constrained corridors like SR 520 and Montlake Boulevard. Many of the community concerns identified during the public records search mirror comments that informed the Bicycle Master Plan update and as such address these concerns.

The Montlake Boulevard/SR 520 interchange is also located just west of a portion of the Lake Washington Loop trail that is also an integral portion of the Montlake neighborhood greenway. The greenway section comprises 24th Avenue East. Cyclists then travel through the one-way couplet formed by East Shelby Street and East Hamlin Street to access Montlake Boulevard.

The 2013 Draft Bicycle Master Plan network map shows potential bicycle facilities of all types ranging from bicycle lanes to neighborhood greenways to cycle tracks. The network map and bicycle master plan update will be finalized in 2013. The network map will be refined based off of public comment and further analysis.

More information about the Seattle Bicycle Master Plan can be found by visiting:
http://www.seattle.gov/transportation/bikemaster.htm

### *Neighborhood Park and Street Fund*

The Neighborhood Park and Street Fund (NPSF), formerly called the Neighborhood Projects Fund, is a key source of funding for non-motorized improvements because it can be used to fund neighborhood transportation projects that cost less than $90,000.

The application window for this competitive process typically opens in November. Community members can submit applications to the Department of Neighborhoods until February. Each Neighborhood District Council selects three projects, which are then analyzed by SDOT to determine feasibility and to estimate cost. Funding decisions are based on recommendations from each Neighborhood District Council, the Department of Parks and Recreation, and SDOT, with the final decisions made by the Mayor. Projects are constructed the following year.

If you are interested in this program, go to http://www.seattle.gov/neighborhoods/npsf/default.htm.

This section highlights the ways in which existing SDOT programs for non-motorized travel benefit neighborhoods in and around SR 520 and Montlake corridors.

### *Montlake Multimodal Center*

Modifications to the Montlake Multimodal Center are primarily in response to needs for pedestrians and cyclists to maneuver through or within the center. The Montlake Multimodal Center, also known as the "Montlake Triangle" area, is a key transit hub with connections to the University of Washington, UW Medical Center, local and regional bus routes, regional bicycle and pedestrian trails, and the future University Link light rail station that will connect to Capitol Hill and downtown Seattle.

SDOT, WSDOT, King County Metro, Sound Transit, and the University of Washington have worked closely to prioritize safe, efficient connections for pedestrians and bicyclists to reach their destinations. Together, these agencies have designed a grade-separated overcrossing that will allow pedestrians and bicyclists to travel through the Montlake Triangle without having to cross busy streets or wait at a crosswalk. After the light rail line and station open in 2016, the Montlake Triangle area will serve multiple transportation modes - buses, light rail, bicycles, and pedestrians - making it the Montlake Multimodal Center.

## SDOT transit initiatives

SR 520 and Montlake Boulevard interchange area is directly linked with high-frequency SR 520 transit service and easy walking distance between SR 520 and the University of Washington area.

### *Montlake Corridor Transit Speed and Reliability Study*

The Seattle City Council is currently conducting a Montlake Corridor Transit Speed and Reliability Study in coordination with SDOT, King County Metro and WSDOT. This effort is intended to identify transit priority projects in the 2.5 mile corridor from Northeast Pacific Street and 15th Avenue Northeast to 23rd Avenue East and East John Street that will improve transit travel time and reliability. The study will identify locations and sources of delay and reliability challenges in the corridor. A full report is expected in Fall of 2013.

### *Transit Master Plan*

The Transit Master Plan (TMP) anticipates the type of transit system that will be required to meet Seattle's transit needs through 2030. It includes corridor designations and specific improvements to guide transit investments. The TMP identifies the Montlake corridor and adjacent SR 520 as important transit facilities. In addition to specific facility improvements, ITS technologies can significantly

improve transit performance in this area.

### SR 520 Program Transit Improvements

Transit service provides regional connectivity between employment centers and neighborhoods. SR 520 Program transit enhancements will benefit Seattle residents and workers alike. Included in the overall SR 520 Program is the Medina to SR 202: Eastside Transit and HOV Project. Project elements that are currently under construction include the following:

1. Complete the SR 520 corridor transit/HOV lane system east of Lake Washington
2. Expand and improve the Evergreen Point freeway transit station
3. Expand and improve the 92nd Avenue Northeast freeway transit station
4. Provide direct access ramps at the 108th Avenue Northeast interchange to expedite bus travel times to/from the South Kirkland Park and Ride

The SR 520 project in Seattle will also implement the following improvements:

1. Relocate the Montlake Freeway Transit Station to the top of the Montlake Lid
2. Provide direct transit/HOV ramps at Montlake Boulevard and I-5
3. Transit/HOV lane on Montlake Boulevard

### *2008 High Capacity Transit Plan*

In partnership with Sound Transit and King County Metro, WSDOT submitted an SR 520 Corridor High Capacity Transit plan to the Governor. The planning effort was completed in 2008 and included features for early implementation along the SR 520 corridor. The plan identified three major elements:

1. Bus Rapid Transit Service
2. Montlake Multimodal Center
3. Light Rail operation on dedicated facilities

The partners identified 2016 as the target year for opening Bus Rapid Transit (BRT) service on the SR 520 corridor. The year 2016 was selected because it was the earliest possible time for transit/HOV lanes on SR 520 to open. The transit agencies, Puget Sound Regional Council, and WSDOT secured federal funding to increase bus service on SR 520 to a level similar to BRT; however, until the SR 520 corridor transit/HOV lanes are completed, the corridor will not provide the necessary BRT reliability features. Improvements in this location would enhance the connectivity between BRT service and LRT making a more robust High Capacity Transit system.

### *Lake Washington Urban Partnership*

In 2007, the Federal Highway Administration awarded a $154.5 million grant to support the Lake Washington Urban Partnership between WSDOT, King County Metro and Puget Sound Regional Council. This funding helped implement a series of projects addressing congestion and increasing safety on SR 520. These projects are designed to function as a system to improve traffic flow within the SR 520 corridor by implementing tolling, transit, technology (implemented in Washington as “Smarter

Highways"), and transportation demand management (TDM) (e.g., carpool, vanpool and telework) programs.

Any reduction in travel on the SR 520 corridor would correlate with reductions in travel on the local system, because all trips either originate or end in the local system where people live and work, so if there is a reduction in traffic on a major freeway system, then there will be a reduction in traffic within the local system.

This program is an example of WSDOT's commitment to working with the local jurisdictions and transit agencies to identify and pursue improvements in transit mobility for the traveling public.

### *Sound Transit Rail*

Light rail corridors are under study, in construction, and fully operational throughout the Puget Sound area. The next major phase of light rail within this plan area is the U-Link Extension that will connect downtown Seattle and Capitol Hill to the University of Washington. Service is expected to begin in 2016 and will provide reliable and frequent service between the University of Washington and downtown Seattle.

WSDOT worked closely with Sound Transit to determine if light rail on SR 520 was a reasonable and feasible option for the year 2030 design year. The study concluded that the long range transit market could be adequately served by a combination of bus/Bus Rapid Transit (BRT) service along the SR 520 corridor and a light rail system on I-90. Sound Transit will study High Capacity Transit options for the SR 520 corridor from Redmond to Kirkland and on to the University District. This study will evaluate the potential for BRT and light rail generally along the SR 520 corridor in greater detail. The new SR 520 design will not preclude the addition of light rail if approved and funded by voters in the future.

## Vehicle traffic initiatives

The following plans and corridor management strategies currently help keep vehicles moving in and through the NTMP plan area.

### *Montlake Second Bascule Bridge*

Seattle's City Council led a 2011-2012 study that established a joint decision-making process for whether and when to construct a second Montlake bascule bridge. The outcome of that process was a report titled "Establishment of Triggers Second Montlake Bascule Bridge Workgroup." It identified three triggers to be monitored:

1. Bicycle and pedestrian mobility
2. Transit speed and reliability
3. SR 520 mainline operations

At the conclusion of the study, the Seattle City Council adopted Resolution 31411 that commits to monitoring transit travel and coordinating with other agencies to determine if and when a second Montlake drawbridge would be constructed.

### *ITS Strategic Plan*

The ITS Strategic Plan is a guide for implementing Intelligent Transportation Systems (ITS) in Seattle. ITS employs electronics and communications technologies on the street, and automated traffic systems, to enhance mobility for all modes by increasing the efficiency and safety of the transportation infrastructure. These systems facilitate traveler information such as congestion mapping, travel time and traffic cameras, as well as improve signal operations for transit and other vehicles.

As identified in the City of Seattle 2010-2020 ITS Strategic Plan the prioritization of future projects is based on the following:

- Addressing critical major project mitigation such as for the upcoming SR 520 and Alaskan Way Tunnel Projects
- Ensuring ITS already in place functions with high reliability (less than 2 percent outages)
- Extracting the maximum benefit and geographic and functional coverage from existing ITS systems
- Supporting pedestrian, bicycle and transit modes
- Keeping systems that are direct links to the public reliable, accurate and technically up to date to preserve a high level of usage, user confidence and functionality

Specific to the Montlake Boulevard corridor, the City of Seattle and WSDOT have installed five operational cameras with live video available on three. The City of Seattle has also provided a new dynamic message sign on Northeast 45th Street just east of Montlake Boulevard to advise travelers about how long their trip will take to reach I-5, SR 520 eastbound, and SR 520 westbound. This advance traveler information will help drivers make decisions about travel during the most congested periods and through the construction phase of the SR 520 I-5 to Medina project. An interactive map can be found at http://web6.seattle.gov/travelers/. Users can zoom in to select cameras in the SR 520/Montlake area. The "Live Traffic Video" tab to the right allows selection of three live video feeds available in the University neighborhood, including Montlake and SR 520.

Elements of the ITS Master Plan that have yet to be implemented will further enhance traffic management on the Montlake corridor. Limited right-of-way and geographical constraints do not allow many potential traffic management solutions. For this reason SDOT and WSDOT see ITS as the best potential enhancement to managing the busy SR 520 corridor.

SDOT developed and defined in the ITS Master Plan a proposal that provides travelers with real-time traffic information, which will allow them to make better travel choices. They may plan a new route, or they may reschedule their trip to avoid congestion. This will help traffic conditions during all construction, as well as reduce overall congestion in the area over the long term.

The project will upgrade signals to improve traffic and transit flow, pedestrian safety and emergency vehicle access. The systems contemplated in this effort include ITS specific to construction mitigation. This project contributes and leverages wider SDOT investments in ITS for the wider Montlake corridor as well as Center City.

Implementation of the City's ITS plan can draw on a range of funding sources including federal, state and local funds and/or grants, as well as integration with other capital projects, both public and private. For

example recently Bridging-The-Gap (BTG) funds have also been used to support ITS activities. As funding is identified, the City of Seattle will identify through an existing process where ITS could be implemented.

WSDOT has committed to funding and implementing a functional portion of the City of Seattle's ITS plan associated with future funded SR 520 project construction phases. SDOT and WSDOT will identify opportunities to leverage SR 520 project phases to include incremental contributions to the overall ITS plan in the Montlake and Roanoke areas.

### *Neighborhood Traffic Operations*

Many of the neighborhood concerns heard related to speeding and cut-through traffic in specific areas. SDOT's Neighborhood Traffic Operations (NTO) helps manage traffic operations on Seattle's neighborhood streets. SDOT responds to resident's questions and concerns regarding speeding, traffic safety, traffic signs, and similar issues.

Residents who have a specific neighborhood traffic concern on a non-arterial may directly contact SDOT staff either by phone or online. SDOT staff will assess the reported situation and respond. Some issues may be appropriate for enrollment in SDOT's neighborhood traffic calming program that can help neighbors understand traffic safety and traffic calming options and collect data about neighborhood speeds and volumes. SDOT can then work with neighbors on developing appropriate community-oriented traffic calming measures, and continue to monitor conditions if needed.

To learn more about this program visit: http://www.seattle.gov/transportation/ntcp_calming.htm.

SDOT can also respond to reported issues on busier, arterial streets through studies. If data shows there are speeding issues in reported areas further steps can be taken to address the issue through the Arterial Traffic Calming (ATC) list which prioritizes action based on the highest speeds and consideration of the Pedestrian Master Plan, the Bicycle Master Plan, and collision history. SDOT selects several areas for physical improvement each year.

To learn more about this program visit: http://www.seattle.gov/transportation/ntcp_arterial.htm.

These programs provide a clear and equitable format to address community concerns in the SR 520 and Montlake corridors and surrounding neighborhood streets. They are also responsive to changing conditions that may during or after SR 520 construction.

### SR 520 corridor management

WSDOT actively manages traffic safety and flow on the SR 520 corridor and has partnered with other agencies to improve both the regional and local transportation system around the SR 520 corridor. This has been achieved through the following practices and projects:

- **Incident Response Teams:** Rapid response to clear incidents results in higher efficiency for the corridor.
- **Intelligent Transportation Systems:** Manages travel flow on the SR 520 corridor.
- **Electronic Tolling:** Manages traffic volumes on the corridor, improves travel times.
- **HOV lane performance standards:** Maintains mobility and reliability for high occupant vehicles.

These efforts provide benefits to the traveling public by balancing traffic flows to minimize delay on the major highway. They also benefits transit travel by maintaining HOV bypass lanes at on-ramps, clearing incidents quickly and efficiently, and maintaining traffic flow in the HOV lanes. Without these practices, transit vehicles would experience more delay. Similarly, accidents on the SR 520 corridor would take longer to clear resulting in longer delays for transit and general traffic.

### Washington Park Arboretum Mitigation Plan

The I-5 to Medina project Preferred Alternative will enhance non-motorized mobility and connections to the Arboretum, thereby resulting in an anticipated increase in use by pedestrians and bicycles in this area. Over the long term, traffic calming measures would reduce vehicular traffic speeds, potentially contributing to increased pedestrian and bicyclist safety in the Arboretum.

WSDOT contributed $200,000 to traffic calming measures that SDOT implemented in the Arboretum in 2011 and 2012. Implementing these measures in advance of the I-5 to Medina project construction offsets some of the temporary effects to pedestrian and vehicle mobility during construction. Through ongoing coordination with SDOT, the following potential pedestrian safety and traffic calming improvements were implemented:

- Crosswalk at Arboretum Drive, including signage and pedestrian landings
- Speed cushions at two locations
- Raised crosswalk (with accompanying signage) north of Interlaken Drive

This is another example of WSDOT's commitment to expedite the I-5 to Medina project to benefit the traveling public. This program was implemented to address public concerns about safety through the Washington Park Arboretum. Even with a reduction in traffic through the Arboretum, WSDOT worked closely with Seattle to achieve early implementation of safety and traffic management solutions.

## Tier 2: Construction period traffic management solutions

In addition to existing traffic management solutions described under Tier 1, WSDOT and SDOT are working to plan for upcoming funded construction phases of the I-5 to Medina project. Their goal is to have operational strategies that facilitate continued or improved person mobility in the area during construction periods.

### Phased construction

Full funding was not available at the time that I-5 to Medina project construction began. WSDOT's priority is to replace the most vulnerable structures in the SR 520 corridor first. To that end, the floating bridge and landings – key vulnerable structures in the corridor – are funded and currently under construction. WSDOT also secured a federal loan to allow construction of the West Approach Bridge North (WABN) to address additional corridor vulnerability.

### West Approach Bridge North construction phase

SDOT and WSDOT have worked closely to integrate Neighborhood Traffic Management Planning strategies into the design of the WABN project (see Exhibit 7). WSDOT and the City of Seattle agree that

the following design refinements address the commitment to implement neighborhood traffic management strategies during the WABN phase of construction, and maintain or improve connections in the Montlake area. Based on public and agency feedback, the WABN phase of construction will include the following neighborhood traffic management strategies:

- Add capacity to the Montlake interchange with an additional westbound lane of storage on Lake Washington Boulevard between 24th Avenue and Montlake Boulevard.
- Redistribute lane widths on Montlake Boulevard to accommodate a bus-only lane and sharrow.
- Clearly mark "local access only" routes to discourage traffic from traveling into local neighborhoods.
- Eliminate and/or mitigate "free right" turns in the Montlake interchange.
- Maintain service at Montlake flyer stop in both directions during construction.
- Extend regional bicycle/pedestrian path to the new floating bridge.
- Connect East Madison Street to the Montlake and University of Washington areas via an improved Arboretum multi-use trail.
- Assist in funding the Montlake Triangle Project to implement a new bicycle/pedestrian facility connecting the regional shared use path to the Burke-Gilman Trail.

SDOT and WSDOT are committed to continued coordination to ensure NTMP strategies are included in the design phase rather than being implemented after construction.

WSDOT conducted traffic operations analysis for the WABN construction phase and determined and vetted with the City of Seattle that adverse effects anticipated from the WABN construction are minimal. The designs proposed will accommodate traffic volumes in the area. Exhibit 4 compares post-WABN-construction traffic volumes during the peak hour to current volumes.

Construction of WABN will be completed with minimal roadway or lane closures. Most of the work will be completed in the shoulder areas or in new alignment locations or from work barges in the water. There will be occasional minor lane closures and/or roadway closures. These will be infrequent and short in duration fitting within the construction traffic management best practices outlined by the City of Seattle. Closures are expected to be limited to night time and weekend periods and they will be coordinated to minimize impacts on local special events.

However, construction of the WABN project will result in the redistribution of some traffic volumes from the Arboretum area over to the Montlake Boulevard East corridor. This shift in traffic volumes would be into the most congested corridor within the Montlake interchange area. Additional capacity is proposed in the interchange area ramps to facilitate the added traffic volume.

This system will include two new traffic signals at the following locations:

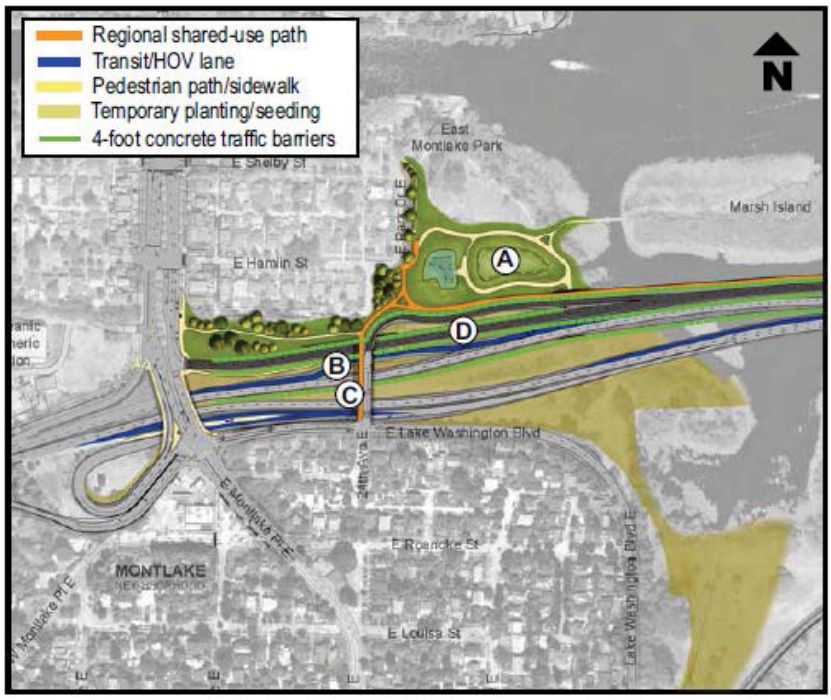
1. Montlake Boulevard intersection with East Lake Washington Boulevard
2. Westbound off-ramp at Montlake Boulevard East

The public will continue to have a venue to provide feedback during WABN construction. Similar to the Floating Bridge and Landings Project, WSDOT's Programmatic Agreement prepared under Section 106 of the National Historic Preservation Act stipulates that each phase of I-5 to Medina project construction will include a Community Construction Management Plan (CCMP). This CCMP will advise the community of construction activities in advance and will provide tools to support communication with the project team. The CCMP will outline best practices and communication tools to minimize construction effects. Please see the following link for the Floating Bridge and Landings Project CCMP, after which the WABN CCMP will be modeled: www.wsdot.wa.gov/NR/rdonlyres/AAB2D08D-2BE0-490E-AC75-164CDD90C805/0/2013_0327_FBL_CCMP_update2_FINAL_Web.pdf

Additional public forums to learn about upcoming construction will include a pre-construction open house and ongoing website and email updates. WSDOT will also continue to coordinate with the City of Seattle on typical construction coordination efforts, such as traffic control plans during construction, as the WABN design is finalized.

**West Approach Bridge North Project (2013)**

**Exhibit 7: West Approach Bridge North – Montlake Interchange Area**




**LEGEND:**

Ⓐ New stormwater treatment facility
Ⓑ Relocated Montlake freeway transit stop
Ⓒ New 24th Avenue East off-ramp and shared-use path
Ⓓ Two westbound lanes to Montlake Boulevard

## How does the NTMP address public comments?

During their coordination effort, SDOT and WSDOT worked to address the public concerns outlined in Chapter 2.

### Operations

Two functions for traffic operations will be or have already been implemented for the WABN stage of construction. The first operational improvement is associated with the implementation of tolls. Traffic operations are similar during the PM peak, but there are nearly 9,000 fewer vehicle trips through the neighborhood during the day as a result of the SR 520 toll.

The second improvement will be constructed as part of the WABN phase. Additional lane capacity will be implemented at the Montlake Boulevard/Lake Washington Boulevard intersection that will maintain or reduce congestion on Montlake Boulevard. By keeping the primary corridor operational, diversion to other secondary roadways is less attractive.

During the ESSB 6392 workgroup process, SDOT and WSDOT agreed to consider Washington Park Arboretum traffic management plans. Since the time of that agreement, WSDOT has implemented the SR 520 toll, funded traffic calming measures in the Washington Park Arboretum, and worked with the City of Seattle to integrate design modifications into the WABN construction phase of the project. Tolls on SR 520 have resulted in a nearly 30 percent reduction in daily traffic using the Lake Washington Boulevard ramps. SDOT and WSDOT will continue to coordinate and discuss Arboretum traffic management opportunities as they are warranted.

#### *Non-motorized*

- The WABN phase of construction will complete the SR 520 shared use path connection across Lake Washington.
- The free right turn onto northbound Montlake Boulevard from the westbound SR 520 off-ramp will be a signalized turning movement when WABN is completed. This will provide pedestrians and cyclists with a signalized crossing over the off-ramp.
- The southbound free right turn from Montlake Boulevard onto eastbound SR 520 will be narrowed and a slight reverse curve will be included as a traffic calming measure to improve safety for pedestrians crossing the ramp. This will be implemented to slow traffic at a crossing that provides a connection between the stairway to the freeway transit station and the Montlake Boulevard transit stop.

#### *Transit*

- The raised island between the southbound Montlake Boulevard lanes and the on-ramp to eastbound SR 520 has been lengthened to allow buses to use both doors for boarding and alighting.
- Freeway transit stops will be operational through the construction phase.
- Westbound access to the freeway transit stop will be improved with an extended deceleration and acceleration lane

# Chapter 4: Future Phases of Construction

The next phases of SR 520 construction in the Montlake area (beyond WABN) have not been funded or packaged at this point. However, WSDOT has shown the construction period will include multiple phases and could last for several years. Future construction phases will include temporary realignment of the Montlake Boulevard corridor as it crosses over SR 520 during construction. This realignment would create travel inefficiencies along the corridor and will likely warrant additional traffic management on Montlake Boulevard.

As future construction phases are defined and funded, the City of Seattle and WSDOT will implement a functional segment of Seattle's ITS program. The functional segment could optimize signal operations, improve traveler information, and improve transit efficiency. This type of system could help traffic operations through construction periods when traffic operations would otherwise be impacted. "The City of Seattle ITS Strategic Plan identifies an ITS plan focused on improving multi-modal arterial traffic management including detection and communications to support responsive operations, congestion and travel time data collection, CCTV, completing communications infrastructure, and providing additional DMS to support incident advisories, Montlake Bridge raising delays and travel times. Cabinet replacement will be required on many streets." (2010 -2012 City of Seattle ITS Strategic Plan, Page 31)

Implementation of this section of Seattle's ITS strategy could help provide improved traffic operations efficiency through the construction area for current and future construction phases. SDOT and WSDOT agree that some or all of the following ITS elements will be implemented within the area of evaluation:

- Signal controllers and cabinets
- Communication upgrades
- Closed Circuit TV cameras
- Travel time equipment
- Traveler message signs

SDOT and WSDOT and are also committed to utilize the WSDOT's CCMP and the City's Traffic Operations Program to continue monitoring traffic operations and identify opportunities to minimize construction effects to transportation in the Montlake area. Continued coordination between the two agencies will occur during the design period for each construction phase so that design refinements can be integrated prior to construction.

## City of Seattle ITS Plan

Making geometric changes, increasing driver awareness and increasing enforcement help reduce speeding, reduce the impacts of cut through traffic, improve safety and improve the quality of non-motorized travel. Traffic signal control upgrades can help improve transit and vehicle operations. Finally, driver information, tolling, parking fees and targeted incentives can help manage both long distance and local demand for roadway space.

WSDOT and the City of Seattle acknowledge that improving existing and future traffic on the Montlake Boulevard corridor requires thoughtful investment, agency partnership and close coordination with other planned regional projects. The solutions integrated into the WABN project and identified for subsequent phases of construction could address issues through all phases of the SR 520 project.

WSDOT and the City of Seattle are committed to completing the SR 520 corridor from I-5 to Redmond, with funding still needed for some elements between I-5 and the floating bridge. WSDOT's highest priority is addressing major vulnerabilities. As shown in the I-5 to Medina project final EIS, WSDOT plans to build the project in the following construction phases:

- Floating bridge and landings *(currently funded and under construction)*
- West approach bridge *(the north half is currently funded for construction)*

Future phases (pending additional funding)

- Montlake interchange area
- Portage Bay Bridge area
- I-5 interchange area
- Second bascule bridge, if determined to be necessary

There are many planned improvements in the region that will incrementally benefit local and cross-lake commuters. Two significant improvements will be completed in 2016: (1) U-Link Light Rail extension will be in service, (2) WABN.

## Long-term traffic management

Based on stakeholder and public feedback through the Seattle Community Design Process, many design refinements were identified for the SR 520 Program's preferred alternative. In addition to the design refinements identified, any long term traffic management solutions implemented during construction would continue under the City of Seattle's operation post-construction. Examples include ITS solutions and traffic management solutions such as education, signing, or infrastructure modifications. Future traffic operations with the full SR 520 Preferred Alternative are highlighted in Chapter 5 of the SR 520 I-5 to Medina final EIS.

## Potential funding sources

Future I-5 to Medina project elements in Seattle will be funded and built based on three key factors: (1) the amount of funding made available, (2) the timing of the funding, and (3) the conditions on that funding. In addition, WSDOT will continue to prioritize replacing vulnerable structures, and unfunded elements will be built in a sequence that aligns with the schedule identified in the project's final EIS and Record of Decision. As funding becomes available for future construction phases of the I-5 to Medina project, WSDOT will identify funding for early action traffic management strategies. WSDOT is also fully committed to continued coordination with the City of Seattle to identify design refinements that implement traffic management strategies that are consistent with local and State transportation plans.

Implementing the City's ITS plan can draw on a range of funding sources, including federal, state, and local funds and/or grants, as well as integration with other capital projects, both public and private. For example, recently Bridging-The-Gap (BTG) funds have been used to support ITS activities. (ITS Plan - page 43). As funding is identified, the City of Seattle will identify through an existing process where ITS could be implemented. SDOT and WSDOT will identify opportunities to leverage I-5 to Medina project phases to include incremental contributions to the overall ITS plan in the Montlake and Roanoke areas.

As identified in the City of Seattle 2010-2020 ITS Strategic Plan, the prioritization of future projects is based on the following:

- Ensuring that ITS already in place functions with high reliability (less than 2 percent outages).
- Extracting the maximum benefit and geographic and functional coverage from existing ITS systems.
- Supporting pedestrian, bicycle and transit modes.
- Keeping systems that are direct links to the public reliable, accurate, and technically up to date to preserve a high level of usage, user confidence and functionality.
- Addressing critical major project mitigation, for example the upcoming I-5 to Medina project and Alaskan Way Viaduct Replacement Program.

## Chapter 5: Conclusion

This NTMP addresses the next funded phase of I-5 to Medina project construction, the West Approach Bridge North. For more than a year, WSDOT and the City of Seattle have considered potential transportation impacts associated with WABN construction, as well as analyzed and reflected on public input received over the life of the SR 520 Program. To that end, WSDOT and the City of Seattle have incorporated several refinements into WABN design that help offset potential traffic impacts and meet the needs of nearby neighborhoods. WSDOT and SDOT have also identified a wide variety of tools, programs, and plans to further address potential impacts and community concerns.

SDOT and WSDOT have demonstrated their commitment to improving mobility along the SR 520 corridor and mitigating adverse effects to local communities through design refinements and traffic management strategies. SDOT and WSDOT are committed to funding and implementing a functional portion of the City of Seattle's ITS plan associated with the future funded I-5 to Medina project construction phases. Implementing ITS elements will result in more efficient signal timing, improved driver information, and improved non-motorized connectivity. This strategy is intended to assist in traffic management during the most robust construction period of the project, and will continue to provide benefits after the project is complete. These strategies work in harmony with the City of Seattle's Neighborhood Traffic Operations program that provides citizens with a gateway to local roadway traffic calming options.

The NTMP is a living document, and will be updated and modified as WSDOT and the City of Seattle find additional funding to build future phases of the I-5 to Medina project. WSDOT is actively seeking additional funding with the help of local, state, and federal partners, and is committed to delivering all I-5 to Medina project elements covered in the federal record of decision. Meanwhile, the City of Seattle is also working to identify funding sources for their robust ITS Strategic Plan. As these two programs come to fruition, the Montlake interchange area will have a complete and functional Neighborhood Traffic Management Plan.

City of Seattle

Washington State Department of Transportation

# APPENDIX I:

## SR 520 West Approach Bridge North Project Construction Update Meeting Summary

Thursday, Jan. 30, 2013, 4:30 – 6:30 p.m.
Graham Visitors Center – Large Meeting Room
2300 Arboretum Drive East, Seattle, WA 98112

**Attendees**

**SR 520 staff:**

- Daniel Babuca, West Approach Bridge North Engineering Manager
- Brian Dobbins, West Approach Bridge North Construction Engineering Manager
- James VanSteenburg, West Approach Bridge North Deputy Construction Manager
- Suryata Halim, West Approach Bridge North Engineering Lead
- Matt Beaulieu, WSDOT Traffic Engineer
- Kristin Sandstrom, West Approach Bridge North Communications Manager
- Emily Namiki, West Approach Bridge North Communications

**City of Seattle staff:**

- Calvin Chow, Seattle Department of Transportation
- Lyle Bicknell, Seattle Department of Planning and Development
- Andy Sheffer, Seattle Parks and Recreation

**Agency representatives:**

- Colin Drake, King County Metro

**Community representatives:**

- Jeff Aken, Cascade Bicycle Club
- Colleen McAleer, Laurelhurst Community Club
- Gene Brandzel, Madison Park Community Council
- Lionel Job, Montlake Community Club
- Rainer Metzger, Montlake Community Club
- Ted Lane, Portage Bay / Roanoke Park Community Council
- Jorgen Bader, University District Community Council

**Other public attendees:**

- Jean Amick, Laurelhurst resident
- Bill Mundy, Madison Park resident
- Kip Cramer, Seattle Yacht Club
- Liz Brandzel, Madison Park resident
- Julie Newhart, Montlake resident
- Mike Schwindeller, Seattle Parks and Recreation intern

## Meeting format

Before the formal presentation, meeting attendees had the opportunity to view materials set up around the room and ask questions to technical staff. Project materials provided an overview of the SR 520 West Approach Bridge North Project (WABN), traffic volumes, construction sequencing, key construction elements, and construction notification resources.

## Presentation Overview

**Daniel Babuca provided a presentation that covered the following topics:**

- A brief introduction to the SR 520 Program and current funding status.
- An overview of the WABN project including key features and benefits.
- Highlights from the SR 520 Neighborhood Traffic Management Plan (NTMP) and the refinements made based on feedback received over the last year and a half.
- Key resources and tools that will help communities stay informed during construction.

**Key points of the presentation included the following:**

- WABN construction is scheduled to begin in summer 2014. The construction duration is approximately 2.5 to 3 years.
- When WABN is complete, traffic access in the Montlake area will not be significantly impacted and will operate similarly to how it operates today. The key difference for drivers is that the westbound Arboretum off-ramp will be removed, and its function replaced by a new off-ramp at 24th Avenue East.
- The NTMP represents the City of Seattle's and WSDOT's commitment to enhance the safety and livability in the Montlake Boulevard corridor while the I-5 to Medina project construction is underway.
- Specifically for the WABN project, the NTMP defines traffic management measures to proactively reduce SR 520 project construction effects and develop long-term traffic management strategies.
- The NTMP used public feedback to frame the solutions and has integrated this input into the project's design. WSDOT heard extensive feedback about the need to improve connections for pedestrians and bicyclists and traffic flow for drivers, and other topics of concern related to safety and traffic effects.
- Construction activities have been carefully planned to create the least amount of effects to the area.
- Additional public engagement opportunities include:
    - Local community council briefings as requested.
    - Pre-construction public open house to meet the contractor and learn about construction activities.
    - Monthly construction update meetings after the start of construction.
- Construction notification tools to keep the public informed on the latest activities include:
    - SR 520 Orange Page for up to date information about upcoming construction activities
    - 24-hour construction hotline
    - Program email updates
    - Email and text alerts

All meeting materials can be found online here:
http://www.wsdot.wa.gov/Projects/SR520Bridge/Library/meeting.htm

**Key comments and questions**

During the presentation, project staff answered questions from attendees. See below for a list of comments, questions and answers. The summary below is not verbatim, and instead represents a summary of the questions and comments received, as well as WSDOT's responses.

- **COMMENT:** There is no funding to build the West Approach Bridge South (WABS) and the rest of the west side corridor.
    - **RESPONSE:** You're correct that there is no funding available for the remaining elements of the corridor. The WABN project is designed to be forward compatible with future phases, and their timing depends on when future funding becomes available.

- **QUESTION:** Why don't the SR 520 improvements stretch down to Montlake School?
    - **ANSWER:** The limits of the project extend south to the Lake Washington Boulevard and Montlake Boulevard intersection. We don't expect any significant changes in traffic. We're prioritizing improvements based on the money we have.
    - The unfunded portion of SR 520, the interchange and the lid, are the biggest changes for traffic in the next phase. The WABN phase of work has much less traffic impacts and changes than the preferred alternative. There will be significant construction activities in the Montlake area during the next phases of construction.

- **QUESTION:** Who did you coordinate with at the Seattle Department of Transportation (SDOT) and Seattle Parks to interface with other projects?
    - **ANSWER:**
        - The City of Seattle staff at the meeting provided an answer to explain the ongoing coordination between WSDOT and the city of Seattle, including SDOT and Seattle Parks.
        - SDOT, Major Projects Division – Calvin Chow
        - Seattle Parks – Andy Sheffer, Mike Shiosaki, David Graves

- **QUESTION:** The SR 520 Program identified the Portage Bay Bridge (PBB) as a vulnerable structure and public safety concern. There is currently no funding, schedule or commitment to build the PBB. Why are other "non-essential" project elements like mitigation projects being conducted before PBB? With all the cost overruns (pontoons cracking, condos cracking, and other unexpected issues for WABN) depleting the contingency fund, how can we expect PBB will be constructed and safety issues addressed? Isn't safety the number one priority?
    - **ANSWER:** We are working with the Legislature to seek additional funding sources to complete the SR 520 program.
    - We recognize that the PBB vulnerabilities and safety issues will still exist after WABN. The current reality is that we do not have funding to address all safety concerns at this time. We are committed to building the entire SR 520 corridor, and will continue to seek the funded needing to do so.
    - Mitigation is a commitment outlined in the Record of Decision and will be constructed concurrently with each funded phase of the project. Completing the mitigation for each phase is a requirement to meet various permits and commitments, and cannot be separated from other construction activities.

- **Action Item:** Follow up with Ted Lane on additional funding information, via the SR 520 business group (Completed Feb. 2014)

- **QUESTION:** Why wasn't an official Community Advisory Group convened? Why hasn't the community been involved in developing the SR 520 Neighborhood Traffic Management Plan? This is a commitment under the Memorandum of Understanding (MOU) with the city of Seattle.
    - **ANSWER:** WSDOT and the City believe that we've reached out to the community to seek input several times since the MOU was signed, and have met the intent of MOU. While an officially defined "community advisory group" was not chartered for the WABN phase of construction, neighboring communities, project stakeholders, and the public were invited to work with us on several occasions to discuss issues of concern.
    - **Action Item:** Provide Gene with information on the CAG (who was involved, how the communities have been involved, etc.) (Completed Feb. 2014)

- **QUESTION:** The signaled intersection along Montlake Boulevard is dangerous because bicyclists will not stop at the signal. I recommend keeping the 24th Avenue East bridge open to avoid extra bicycle traffic from using this intersection.
    - **ANSWER:** Bicyclists will have to follow the same traffic laws that drivers do. During construction, we'll need to close the 24th Avenue East bridge over SR 520 in order to construct the new off-ramp to Lake Washington Boulevard. We will complete all local surface and street improvements before closing the 24th Avenue East bridge to give bicycles clear detour routes during construction.
    - Once WABN is complete, there will be more options for all users.

- **QUESTION:** Will bikers going south have a designated route or lane?
    - **ANSWER:** Yes. Bikers will be routed onto the designated city of Seattle bike routes and detoured appropriately during construction.

- **QUESTION:** Will these plans do something to keep bikers off of Lake Washington Boulevard through the Arboretum?
    - **ANSWER:** There will be signage for the designated city of Seattle bicycle route. Bicyclists will be allowed on Lake Washington Boulevard through the Arboretum, like they are today.

- **QUESTION:** Why was a four-way stop used instead of a traffic signal at the 24th Avenue East and Lake Washington Boulevard intersection? What triggers will warrant the need for a traffic signal (e.g. backups)?
    - **ANSWER:** Our traffic analysis shows that only a four-way stop is warranted. We worked closely with the city of Seattle to identify traffic calming for this intersection and to limit cut-through traffic. Bicycles/pedestrians will greatly benefit from traffic calming at this intersection.
    - **Action Item:** Provide Kip Kramer with information about parameters to implement a stop sign versus a traffic signal at East Lake Washington Boulevard and 24th Avenue East. (Completed Feb. 2014)

- **COMMENT:** Many bicyclists go through the 24th Avenue East and Lake Washington Boulevard intersection. There may be safety issues without proper lighting in this intersection, but also light from cars shining into neighbor's homes may also be an issue. The team should consider this in their planning.

- **COMMENT:** I am concerned that the number of Montlake Bridge openings during construction, especially during spring/summer time, will cause traffic congestion in the neighborhoods. I hope

that the city of Seattle and WSDOT work with the Coast Guard to limit Montlake Bridge openings.

- **COMMENT:** The city of Seattle and WSDOT must coordinate with the Portage Bay/Roanoke Park and Fuhrman/Boyer neighborhoods during Montlake Boulevard lane closures. The neighborhoods will be greatly impacted by cut-through and diverted traffic during lane closures.

- **COMMENT:** I would like to request that the community be involved in where the WABN vibration monitoring equipment will be set up. I have concerns about structural damage to homes caused by construction effects and vibrations. How will the project minimize vibrations?
    - **ANSWER:** We are learning a lot from the West Connection Bridge project, which will help to inform the vibration monitoring process and public response protocol. We will begin pre-construction inspection of Montlake front-line homes nearest to the project limits this spring. Front-line property owners will be notified directly and invited to participate in a pre-construction inspection so that we have baseline data in the case of damage during construction.

- **QUESTION:** What project elements are temporary and must be demolished or reconstructed after this phase? What permanent noise mitigation features are included?
    - **ANSWER:** The WABN bridge structure and the stormwater facility will be permanent structures. Everything west of the abutment (Montlake shoreline) is temporary and will be rebuilt as part of WABS.
    - WSDOT is required to meet noise commitments in the final EIS. The WABN project is designed to include 4-foot barriers, quieter concrete, and quieter expansion joints to help reduce noise.

- **QUESTION:** The monitors [referring to the West Connection Bridge (WCB) project] provide no reason for any damage. The monitor by our condo is placed on a sand bag. How are your monitoring systems designed? Where are they placed? Can we take part in deciding where they are placed? Let the citizens be satisfied that the monitoring is true and accurate.
    - **ANSWER:** We are primarily targeting front line homes for the pre-construction surveys. We'll be sure to let the community know about our monitoring plans. At that point we can figure out how best to involve the community in where they are placed. I'll pass your request to participate in where they are placed along to our construction team.

- **QUESTION:** Has there been an inquiry made as what to do to minimize the pile driving?
    - **ANSWER:** I'm not intimately familiar with the West Connection Bridge project. The WABN team is encouraging the contractor to vibrate piles instead of conducting impact driving. There are differences between the WCB project and WABN because of the proximity to the existing highway structure and the depth required to drive the pile. We are working on ways to minimize noise and vibration as much as possible, but there will be significant construction on the lake, and we have to impact drive some piles.
    - We will keep community members informed during construction.
    - **Action Item:** Provide Gene with more information on vibration monitoring, plan, etc. (follow up in progress).

**Appendix 1: Public notification and written comments on NTMP**

The SR 520 program team completed the following to solicit comments to invite neighborhood representatives to the meeting and solicit comments on the NTMP. This included:

- Dec. 11, 2013: An email invite with the link to the draft Neighborhood Traffic Management and Community Construction Management Plan prior to the meeting.
- January 15, 2014: An email reminder prior to the meeting on January 30, 2014.

Meeting participants were asked to submit their comments on the NTMP by Feb. 20, 2014. The attached comment forms were available at the meeting venue, or could be emailed to SR520Bridge@wsdot.wa.gov.

The SR 520 program received one written comment from community members at the meeting, and one by email following the meeting. They are summarized below:

1. **Jorgen Bader, University District Community Council**
    a. The graphic showing the intersection of Montlake Boulevard East and East Lake Washington Boulevard should have included drawings of the final/completed configuration, including pedestrian routes on Montlake Boulevard East and access to the Montlake flyer stop.
    b. Anti-graffiti treatment is needed on walls and pylons, as well as artistic treatments. The plan should allow for community comment.
    c. Community comment should be invited for design of artistic bus shelters.
    d. Surface walkways on the Montlake lid are integral to the design. Temporary pathways are also important, and WSDOT should consult the community.
    e. More information is needed about event accommodations, such as Husky football games.
    f. Bicyclists do not always follow stop and yield signs. WSDOT should seek input from Cascade Bicycle Club, to reduce accidents and injuries.

2. **Pete DeLaunay, Portage Bay/Roanoke Park Community Council and surrounding neighborhoods**
    a. The WABN project will cause impacts to city streets.
    b. Montlake Boulevard lane closures will impact the area.
    c. Metro route 25 may be eliminated. Combined with increased traffic, there will be unhealthy congestion that will overwhelm the area.
    d. Our community council has worked with WSDOT and the city of Seattle for years to mitigate construction impacts.
    e. We would like to hear dates when you could attend a combined community meeting to hear our concerns about traffic impacts.
    f. We hope to reduce impacts during construction, east impacts to city surface streets, provide mitigation funding for a lid extending Roanoke Park, develop a retro-fit plan for the Portage Bay Bridge to save funding for other priorities, provide mitigation for reclamation of south Portage Bay, and review the health impacts from vehicle emissions in the neighborhoods.